PROJECT DESCRIPTION

I. GENERAL

This project involves the installation of a new Traffic Control Signal at the intersection of Old National Pike and Mussetter Road in Frederick County, Maryland. Old National Pike is considered to run in an east/west direction.

II. INTERSECTION OPERATION

The intersection will operate in a NEMA four (4) phase, full-traffic-actuated mode. The Old National Pike through movements will operate concurrently. The Mussetter Road through movements will operate concurrently.

An eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, and two (2) four-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

CONTACT LIST

The contact persons for District #7 are as follows:

Neil C. Spiller
Frederick County Traffic Engineering
301-696-2930

Mr. John Concannon
Assistant District Engineer - Traffic
301-624-8140

Mr. Jim Buckalew
Assistant District Engineer - Utility
301-624-8115

Mr. Dave Coyne
Assistant District Engineer - Maintenance
301-624-8105

Mr. Richard L. Daff
Chief, Traffic Operations Division
410-787-7630

The Power Company Representative is:
Allegheny Power Company
Brian Manville
421 E. Patrick Street
Frederick, Maryland 21701
301-694-4474
WR# 501604

EQUIPMENT LIST

A. Approved S.H.A. equipment to be purchased by the Developer and installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
1	EA	818	27 ft. steel mast arm pole with a 38 ft. mast arm.
1	EA	818	27 ft. steel twin mast arm pole with 50 ft. and 70 ft. mast arms.
1	EA	816	Standard S.H.A. traffic signal controller, base mounted cabinet, and two (2) four-channel loop detector amplifiers [Note: Controller and cabinet shall be purchased from Econolite and delivered to the S.H.A. signal shop for wiring and testing. Contact Mr. Ed Rodenhizer (410) 787-7650].
8	EA	814	12 in., one-way, three section (R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
3	EA	813	16 in. x Var. D-3(2) (Dual Faced) sign for under mast arm mounting.
2	EA	813	48 in. x 48 in. W 3-3 "NEW" sign for ground mounting.
2	EA	813	48 in. x 12 in. D-3(2) sign for ground mounting.
2	EA	----	Micro-loop probe (set of 3) with 750 ft. lead-in cable.
1	EA	806	15 ft. Luminaire arm.
1	EA	806	250 w H.P.S. lamp and luminaire.

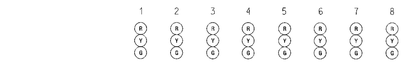
B. Equipment to be furnished and/or installed by the Contractor. All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
3	CY	205	Test pit excavation.
12	EA	811	Handhole.
415	LF	815	Sawcut for signal loop detector.
1350	LF	810	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
375	LF	810	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
210	LF	810	2-conductor tray cable (No.12 A.W.G.).
120	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
945	LF	810	7-conductor electrical cable (No.14 .A.W.G.).
60	LF	810	3-wire (No. 4 A.W.G.) electrical cable.
180	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
30	LF	805	1 in. liquid tight flexible non-metallic conduit for loop detector sleeve.
875	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
30	LF	805	2 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
20	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
250	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
40	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
8.55	CY	801	Concrete foundation for traffic signal equipment.
3	EA	804	Ground rod - ¾ in. diameter x 10 ft. length.
1	EA	807	Control and distribution equipment (120/240 V, one phase, three wire system) for a type B-14 overhead electrical service.
48	LF	----	4 in. x 6 in. wood sign support.
100	LF	556	24 in. wide white HAPPTPM - for stop line.
35	LF	----	Remove existing pavement marking by grinding.
Lump Sum	LS	----	As-built for S.H.A. [on CADD].

C. Existing equipment to be removed by the Contractor and delivered to the MDSHA Office of Traffic and Safety, Traffic Operations Division, Traffic Signal Shop, 7491 Connelley Drive, Hanover MD, 21076. A twenty-four (24) hour notice is required prior to delivery. Please contact Mr. Ed Rodenhizer at (410) 787-7650.

Note, All equipment and/or material not listed above shall become the property of the Contractor.

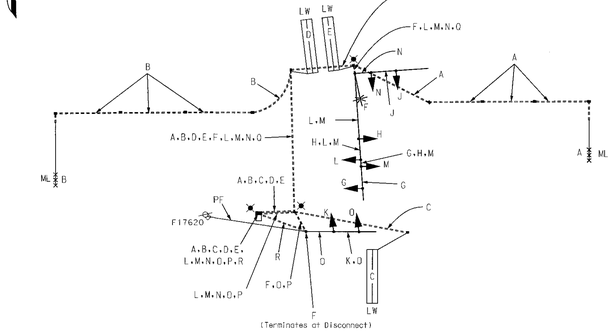
Phase Chart



Phase 2 & 6	G	G	G	G	G	R	R	R	←
2 & 6 Change	Y	Y	Y	Y	Y	R	R	R	→
Phase 4 & 8	R	R	R	R	R	G	G	G	↓ ↑
4 & 8 Change	R	R	R	R	R	Y	Y	Y	↓ ↑
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	↔ ↕

Flashing Operation shall be utilized until County places intersection into fully-actuated mode.

Wiring Diagram



A, B } Micro-loop Detector Lead-in Cable

C, D, E } 2-Conductor Cable (Aluminum Shielded)

F — 2-Conductor Tray Cable (No. 12 A.W.G.)

G, H, J, K } 5-Conductor Electrical Cable (No. 14 A.W.G.)

L, M, N, O } 7-Conductor Electrical Cable (No. 14 A.W.G.)

P, Q } Bare Copper Ground Wire (No. 6 A.W.G.)

R — 3-Wire (No. 4 A.W.G.) for Traffic Signal Electrical Service

PF — Proposed Overhead Electrical Service By Allegheny Power Co.

LW — Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing

ML — Micro-loop Detector

— Proposed Grounding Rod

Revision "1"

The Traffic Group
The Traffic Group, Inc.
410-931-6600
Fax 410-931-6601

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information Plan)
Old National Pike at Mussetter Road

DRAWN BY: J. Dirndorfer	F.A.P. NO. N/A		TS NO. 4148	SHEET NO. 2 OF 2
CHECKED BY:	S.H.A. NO. BW996M82			
SCALE: N/A	COUNTY: Frederick		T.I.M.S. NO. E-920	
DATE: May 30, 2002	LOG MILE:			

F:\2001\2001-0714\Des\sigplan.dgn 05/30/2002